

### ABSTRACT OF THE DISCLOSURE

A system for detecting and identifying low-level (weak) radioactive sources moving past stationary detectors. The system, which can detect low-level sources moving at speeds of 30 m/s (about 70 mph), uses the differences between background counts and gamma counts from a moving source to determine that a source has passed the detector, when a source has passed the detector, and the identification of the source. This system has been demonstrated to work successfully for ordinary passenger vehicles transporting a variety of sources, and also for boats at lower speeds on a waterway.